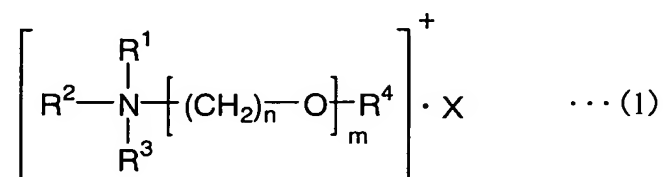


CLAIMS:

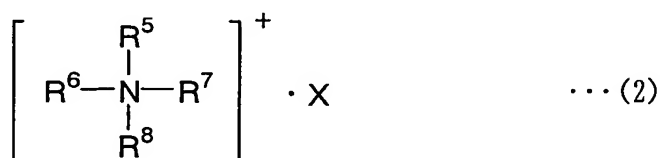
1. A polymer electrolyte-forming composition characterized by comprising:

- 5 (A) a quaternary ammonium salt of general formula (1) below



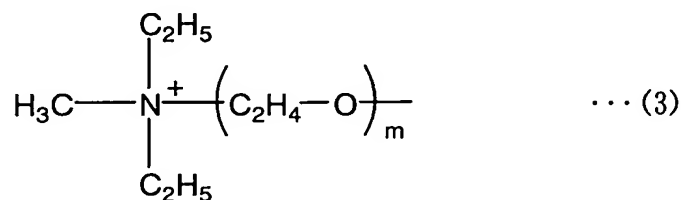
wherein R^1 to R^3 are each independently an alkyl group of 1 to 5 carbons or a substituent having a reactive unsaturated bond and any two from among R^1 to R^3 may together form a ring, R^4 is methyl, ethyl or a substituent having a reactive unsaturated bond, with the proviso that at least one of R^1 to R^4 is a substituent having a reactive unsaturated bond, X is a monovalent anion, the letter m is an integer from 1 to 8, and the letter n is an integer from 1 to 4; and
 15 (B) an ionic liquid.

2. The polymer electrolyte-forming composition of claim 1 which is characterized in that the ionic liquid (B) is a quaternary ammonium salt of general formula (2) below
 20



wherein R^5 to R^8 are each independently an alkyl of 1 to 5 carbons or an alkoxyalkyl group of the formula $R' - O - (CH_2)_n -$ (R' being methyl or ethyl, and the letter n being an integer from 1 to 4) and any two from among R^5 , R^6 , R^7 and R^8 may together form a ring, with the proviso that at least one of R^5 to R^8 is an alkoxyalkyl group of the above formula, and X is a monovalent anion.
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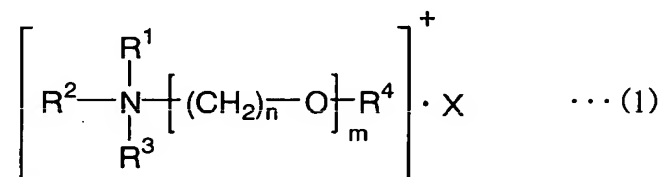
3. The polymer electrolyte-forming composition of claim 1 or 2 which is characterized in that the quaternary ammonium salt (A) and/or the ionic liquid (B) has a partial structure of formula (3) below



wherein the letter m is an integer from 1 to 8.

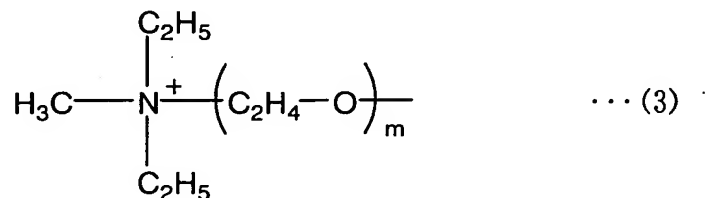
4. A polymer electrolyte-forming composition characterized by comprising:

(A') a quaternary ammonium salt which has general formula (1) below and has the properties of an ionic liquid



wherein R¹ to R³ are each independently an alkyl group of 1 to 5 carbons or a substituent having a reactive unsaturated bond and any two from among R¹ to R³ may together form a ring, R⁴ is methyl, ethyl or a substituent having a reactive unsaturated bond, with the proviso that at least one of R¹ to R⁴ is a substituent having a reactive unsaturated bond, X is a monovalent anion, the letter m is an integer from 1 to 8, and the letter n is an integer from 1 to 4.

5. The polymer electrolyte-forming composition of claim 4 which is characterized in that the quaternary ammonium salt (A') has a partial structure of formula (3) below



5

6. The polymer electrolyte-forming composition of any one of claims 1 to 5 which is characterized in that X is at least one selected from among BF_4^- , PF_6^- , $(\text{CF}_3\text{SO}_2)_2\text{N}^-$, CF_3SO_3^- and CF_3CO_2^- .

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7. The polymer electrolyte-forming composition of any one of claims 1 to 6 which is characterized by including (C) a reactive double bond-bearing compound.

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8. The polymer electrolyte-forming composition of any one of claims 1 to 7 which is characterized by including (D) an ion-conductive salt.

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9. The polymer electrolyte-forming composition of any one of claims 1 to 8 which is characterized by including (E) a straight-chain or branched linear polymeric compound.

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10. A polymer electrolyte which is characterized in that it can be obtained by reacting the polymer electrolyte-forming composition according to any one of claims 1 to 9.

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11. An electrical double-layer capacitor comprising a pair of polarizable electrodes, a separator between the polarizable electrodes, and an electrolyte; which electrical double-layer capacitor is characterized in that the electrolyte is a polymer electrolyte according to claim 10.

12. A nonaqueous electrolyte secondary cell comprising a positive electrode which contains a lithium-containing compound oxide, a negative electrode which contains a carbonaceous material capable of lithium ion insertion and
5 extraction or contains metallic lithium, a separator between the positive and negative electrodes, and an electrolyte;
which nonaqueous electrolyte secondary cell is characterized in that the electrolyte is a polymer electrolyte according to claim 10.